

On a New Species of *Distomum*. By G. S. WEST, A.R.C.S., Scholar of St. John's College, Cambridge. (From the Biological Laboratory, Roy. Coll. Sci. London.) (Communicated by Prof. G. B. HOWES, Sec. Linn. Soc.)

[Read 6th June, 1895.]

(PLATE XI.)

WHILST dissecting the head of *Philodryas Schottii* (one of the Opisthoglyphous Colubridæ), some dozen or more specimens of a small species of *Distomum* were observed in the buccal cavity and several more in the narial cavity; the narial passages were also full of eggs. On careful examination and comparison with descriptions and figures of published forms, it proves to be an undescribed species which I designate as follows:—

DISTOMUM PHILODRYADUM, n. sp.

Body fusiform, broadest in the middle, tapering to each end, anterior oral extremity rounded, posterior caudal extremity more or less pointed; epidermis closely beset with very minute spines, which are much fewer posteriorly; oral sucker orbicular, almost ventral in position; ventral sucker sessile, situated at about one third the length of the body from the anterior end, orbicular, and of the same size as the oral sucker. Intestine simple, oesophagus extremely short, branches long and narrow, reaching almost to the extremity of the tail. Genital pore posterior to the ventral sucker and a little to the left of the median line. Length 3–5 mm.; breadth 0·8–1·3 mm. Eggs numerous, very minute, length 0·03 mm., breadth 0·015 mm.

The snake from the mouth of which this Trematode was obtained is a Brazilian one. Curiously enough, two other species described as infesting the buccal cavities of snakes are also S. American. These two species are *D. Boscii*, Cobb. ("On some new forms of Entozoa," Trans. Linn. Soc. vol. xxii. 1859, p. 364, t. 63. f. 67), and *D. incerta*, Cobb. ("Notes on Parasites collected by the late Charles Darwin," Journ. Linn. Soc. vol. xix. 1885, pp. 177–178, and fig.). From both these species it differs in its external form, its larger ventral sucker, in the shortness of its oesophagus, and in the position of the genital pore; moreover, *D. Boscii* has a much smaller oral sucker, and *D. incerta* is quite smooth. The dimensions of *D. Philodryadum* and also of the

eggs are intermediate between these two species. *D. Barnaldii*, Sonsino ("Dei Distomi dello *Zamenis viridiflavus*, Lacép., e di una fase del ciclo vitale di unodi eiso," Proc. Verb. Soc. Tosc. Sc. Nat. Pisa, 1892, p. 92), is also from the buccal cavity of a snake. *D. Philodryadum*, however, differs very considerably from the latter species in general form, size, position of the genital pore, &c.* Of the species of *Distomum* described as infesting other parts of snakes, those most nearly approaching *D. Philodryadum* are *D. variabile*, Leidy ("A Synopsis of Entozoa and some of their ecto-congeners observed by the Author," Proc. Acad. Nat. Sc. Philad. 1856, p. 44), and *D. signatum*, Dujardin ('Histoire naturelle des Helminthes ou vers intestinaux,' Paris, 1845, p. 414). From the former it differs in size, form, and in the ventral sucker; but Leidy does not describe the internal anatomy of his species. *D. signatum* is smaller, has the suckers much closer together, proportionately larger eggs, and the genital pore is anterior to the ventral sucker.

The œsophagus is very short and rather wide, and the two branches of the intestine appear to arise almost directly from the base of the pharynx; but the presence of an unbranched thin-walled tube posterior to the latter is clearly seen in transverse sections. The simple character of the intestine, the extreme shortness of the œsophagus, and the characters of the oral and ventral suckers place this species in Dujardin's subgenus *Brachylaimus* (Dujardin, *l. c.* p. 407; *cfr.* Bronn, 'Klass. u. Ord. Thier-Reichs,' Band 4, Würm. p. 909).

The testes may be on opposite sides of the body, one in a more anterior position than the other; or there may be one directly behind the other on the same side of the body. One vas deferens is considerably longer than the other, and the two unite just at the point where the duct enters the cirrus pouch.

In those specimens in which the uterus was greatly distended with eggs, the most anterior part of it reached almost as far as the anterior edge of the ventral sucker.

The genital orifice is situated posterior to the ventral sucker and a little to the left of the median line; its position is not

* In a paper, "Brief Notes on Flukes," P. Z. S. 1893, p. 499, Sonsino remarks that *D. Barnaldii* may prove to be *D. nigrovenosum*, Bellingham (found in *Tropidonotus natrix*). This latter is well worked out by Monticelli ("Studii sui Trematodi endoparasiti," Suppl. Zool. Jahrb. 1893).

quite constant, being only just posterior to the ventral sucker in some, and in others a considerable distance posterior to it. The penis was protruded in most of the specimens as a very considerable papilla.

The excretory vesicle extends up the centre of the body amongst the folds of the uterus for a considerable distance, and is seen in any transverse section of the posterior end of the body (fig. 5, *e.v.*).

EXPLANATION OF PLATE XI.

Fig. 1. *Distomum Philodryadum*, n. sp. Animal viewed from the ventral surface, showing most of the internal anatomy.

2. Part of another animal, showing a difference in position of the genital pore.
3. Transverse section through the region of the ventral sucker; the animal had the uterus greatly distended with eggs.
4. Transverse section a little posterior to the ventral sucker.
5. Transverse section through the posterior end of the body.
6. Section showing the ectoderm, mesenchyma, and some of the muscles.
7. Transverse section through a nerve-cell.
8. Longitudinal section through a nerve-cell.

Figs. 9, 10. Two ova. $\times 520$.

c.p. = cirrus pouch.
ec. = ectoderm.
e.v. = excretory vesicle.
g.p. = genital pore (δ or φ).
i. = intestine.
m. = mesenchyma.
m.l. = longitudinal body-muscles.
m.n. = nuclei of mesenchyma.
m.o. = oblique body-muscles.
n. = nerve-cell.
a. = œsophagus.
ov. = ovary.

p. = penis.
ph. = pharynx.
r.s. = receptaculum seminis.
s.o. = oral sucker.
s.v. = ventral sucker.
sp. = spines.
t₁ and *t₂* = testes.
u. = uterus.
v.d. = vas deferens.
v.s. = seminal vesicle.
vt. = vitellaria.

West.

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O.S. West del.
A.R. Hamond lith.

Hanhart imp.

ANATOMY OF *DISTOMUM PHILODRYADUM* n.sp.